

Pump sizing

Important: The dry-running protection is effective only within the recommended duty range of the pump, indicated by the bold curves. See performance curves.

Pump type	Input power (P1) [kW]	Flow rate Q [m ³ /h] / [l/s]													Max. head [m] (Q = 0 m ³ /h)	Rated current I _{1/1} [A]		Pipe connection Rp
		0.5/ 0.14	1.0/ 0.28	1.5/ 0.42	2.0/ 0.56	2.5/ 0.70	3.0/ 0.83	3.5/ 0.97	4.0/ 1.11	5.0/ 1.39	6.0/ 1.67	7.0/ 1.95	8.0/ 2.22	9.0/ 2.50		230 V 200 V		
		Head [m]																
SQ 1-35	0.58	43	34	20	-	-	-	-	-	-	-	-	-	-	47	2.5	2.9	1 1/4
SQ 1-50	0.78	65	52	32	-	-	-	-	-	-	-	-	-	-	71	3.3	4.0	1 1/4
SQ 1-65	1.00	88	70	44	-	-	-	-	-	-	-	-	-	-	94	4.3	5.2	1 1/4
SQ 1-80	1.18	110	89	56	-	-	-	-	-	-	-	-	-	-	118	5.1	6.0	1 1/4
SQ 1-95	1.38	132	107	68	-	-	-	-	-	-	-	-	-	-	142	6.0	7.0	1 1/4
SQ 1-110	1.59	155	125	80	-	-	-	-	-	-	-	-	-	-	166	7.0	8.1	1 1/4
SQ 1-125	1.82	177	144	93	-	-	-	-	-	-	-	-	-	-	189	7.8	9.3	1 1/4
SQ 1-140	2.02	199	162	104	-	-	-	-	-	-	-	-	-	-	213	8.6	10.3	1 1/4
SQ 1-155	2.19	222	180	117	-	-	-	-	-	-	-	-	-	-	237	9.6	11.0	1 1/4
SQ 2-35	0.71	43	42	39	35	29	19	-	-	-	-	-	-	-	45	3.0	3.6	1 1/4
SQ 2-55	1.00	66	63	60	54	45	32	-	-	-	-	-	-	-	68	4.3	5.2	1 1/4
SQ 2-70	1.27	87	84	79	72	60	43	-	-	-	-	-	-	-	89	5.5	6.4	1 1/4
SQ 2-85	1.55	108	105	99	89	74	54	-	-	-	-	-	-	-	109	6.8	7.9	1 1/4
SQ 2-100	1.86	131	128	120	109	91	67	-	-	-	-	-	-	-	132	8.0	9.5	1 1/4
SQ 2-115	2.11	154	150	142	129	108	79	-	-	-	-	-	-	-	155	9.3	10.6	1 1/4
SQ 3-30	0.70	-	-	34	32	30	26	22	-	-	-	-	-	-	36	3.0	3.6	1 1/4
SQ 3-40	0.99	-	-	53	50	47	42	36	-	-	-	-	-	-	56	4.2	5.1	1 1/4
SQ 3-55	1.25	-	-	70	67	63	56	48	-	-	-	-	-	-	74	5.4	6.6	1 1/4
SQ 3-65	1.52	-	-	87	83	78	70	60	-	-	-	-	-	-	92	6.7	7.8	1 1/4
SQ 3-80	1.82	-	-	105	100	94	85	73	-	-	-	-	-	-	110	7.8	9.3	1 1/4
SQ 3-95	2.09	-	-	123	117	109	99	85	-	-	-	-	-	-	129	9.0	10.7	1 1/4
SQ 3-105	2.33	-	-	140	134	125	113	97	-	-	-	-	-	-	147	10.3	11.7	1 1/4
SQ 5-15	0.53	-	-	-	-	-	15	14	13	11	7	-	-	-	18	2.3	2.7	1 1/2
SQ 5-25	0.92	-	-	-	-	-	31	29	28	24	18	-	-	-	36	3.9	4.7	1 1/2
SQ 5-35	1.29	-	-	-	-	-	46	44	42	36	28	-	-	-	54	5.6	6.5	1 1/2
SQ 5-50	1.70	-	-	-	-	-	62	59	56	49	38	-	-	-	71	7.3	8.7	1 1/2
SQ 5-60	2.08	-	-	-	-	-	77	74	70	61	48	-	-	-	89	8.9	10.6	1 1/2
SQ 5-70	2.43	-	-	-	-	-	93	89	85	73	58	-	-	-	106	10.7	12.0	1 1/2
SQ 7-15	0.73	-	-	-	-	-	-	17	16	14	12	9	6	2	21	3.1	3.7	1 1/2
SQ 7-30	1.26	-	-	-	-	-	-	36	35	32	29	24	18	10	42	5.5	6.4	1 1/2
SQ 7-40	1.81	-	-	-	-	-	-	56	54	50	45	38	29	19	64	7.8	9.3	1 1/2

Example

Required:

Flow rate: 2.4 m³/h

The nearest higher value in the table is 2.5 m³/h.

Head: 68.3 m

The nearest higher value in the table is 78 m.

Selected:

Pump type: SQ 3-65 (as it offers the best pump efficiency for the required flow and head).

Required pump power input: 1.52 kW

Rated current: I_{1/1} = 6.7 A at 230 V

I_{1/1} = 7.8 A at 200 V

Pipe connection: Rp 1 1/4

Length of pump: 826 mm

How to select an SQ pump

- A head of 68 m and a flow of 2.4 m³/h are required.
- The pump type best meeting these requirements is SQ 3. In the curve chart below, draw a rightward horizontal line from the head required 68 m (1) to the intersection with the vertical line from the required flow (2). In this example, the intersection (3) of the two lines is not on one of the pump curves, therefore, follow the pipe characteristic upwards. The intersection of the pump curve and the pipe characteristic (4) gives the size of the pump. The size of the pump is SQ 3-65.
- The pump power input per stage (P2) can be read 0.20 kW (5), and the pump efficiency per stage is 57 % (6).

SQ 3-65 has 5 stages. See page 35. With 5 stages, the total pump power input for SQ 3-65 is 1.02 kW, (0.20 kW multiplied by 5), which corresponds to an MS 3 1.15 kW motor.